

Subjects taught at the department

No.	Item name	Brief information about science
1	Admission to the specialty	The subject "Introduction to specialization" performs the tasks of forming students' knowledge, practical skills, methodical approach to technical phenomena and processes, scientific outlook.
2	Electrical materials. Installation of electrical equipment	Familiarization and selection of materials used in electrical devices and protective equipment will be taught. Taught assembly and adjustment work on the installation of electrical appliances and equipment. It performs calculations on the choice of conductors and conductor cross-sections.
3	Electrical lighting and radiation	design of electric lighting systems for agricultural and water facilities, selection, calculation and placement of modern lighting equipment for agricultural and water management buildings and structures, conductors for power supply networks of lighting equipment, selection of electrical switches, control of lighting systems and protection of lighting networks studies the calculation of the economic efficiency of lighting equipment, selection , calculation, design and operation rules and requirements for lighting devices used in agricultural and water management processes.
4	Electrical technology	The laws of converting electricity into other types of energy, the laws of converting electricity into thermal energy and the laws of heat transfer and heat supply, the physical foundations of the direct technological action of electricity, the design of an electric heating device for the heating system of buildings and structures in agriculture and water management, learns to calculate the economic efficiency of electrothermal equipment
5	Fundamentals of energy saving	The main indicators of power quality are ways to reduce power consumption in various technological processes and devices; assessment of energy efficiency of technological processes; compilation of energy balances and energy descriptions of enterprises and devices; creation of various energy-saving measures and their economic evaluation
6	Renewable Energy Sources and Application Technologies	The use of renewable energy sources and their types in agriculture and water management, solar heaters, water heaters and air heaters, structural elements of small hydroelectric power plants, wind farms, biogas plants, types of secondary energy resources, operating principles and main indicators are presented.

7	Electrical equipment repair technology	to introduce into the minds of students the theoretical foundations of the production and technical operation of electric power equipment and overhaul, the formation of technological processes and the practical use of devices, methods of organizing enterprises for the overhaul of electrical equipment in the production of the agro-industrial complex, according to the profile of the direction of the formation of knowledge, skills and qualifications.
8	Electrical operation and maintenance	The effective and correct use of electrical devices, as well as ensuring their uninterrupted operation, teaches preventive measures and the repair of asynchronous, synchronous and electrical machines.
9	Design of power supply systems	organization of design of electric power systems of agricultural enterprises, types of cables and conductors, types and characteristics of protection and start-up devices, assignment for the project, collected primary data and requirements for the project, main regulatory documents used in the project
10	electrical engineer materiallar va technologylar	It consists in the formation of theoretical knowledge and practical skills in the use of electrical materials and the technology of assembling electrical equipment in various technological processes in agriculture and water management, their design features and principles of operation.
eleven	Getting a working profession	Electrical equipment, transformers, electric motors, lighting and radiation devices, automatic and protective devices and methods of installation of overhead networks used in the field of electrification and automation of agricultural and water management enterprises and their requirements, the basics of calculation and ensuring their level of knowledge corresponding to the profile of the focus on selection methods in according to certain conditions.
12	Electrical equipment setup	a general idea of electrical equipment used in the technological processes of agricultural and water production, as well as the formation of knowledge, skills and competencies for setting up electrical equipment.
13	Fundamentals of Scientific Research	The place of science and technology in agriculture and water management of the republic; fundamentals and methods of scientific research, modeling, statistical processing, active planning of scientific work, preparation of orders for inventions and rationalization proposals for scientific and technical innovations based on the results obtained
14	electrical safety	every future power engineer, i.e. to teach students the theoretical foundations of knowledge on electrical safety related to work performed on electrical equipment, the basic concepts of electrical safety, as well as groups and categories given to employees, electrical safety rules and their implementation in practice is to create skills

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| 15 | Energy audit | essence, significance and necessity of energy audit (survey), legal basis of energy audit, types of energy audit, short and full energy audit, stages of energy audit, methods of developing technical measures for energy saving and must know and be able to apply methods, measure quantities and energy audit tools, general recommendations on application methods measures that ensure energy saving, must have the skills to document the results of energy audits. |
| 16 | Automated systems for control and accounting of electricity | Automation of agricultural and water facilities, developed energy trade, which minimizes human participation at the stages of measurement, data collection and processing and provides a reliable, accurate and reliable tariff system for both the energy supplier and the consumer. is to provide a level of knowledge corresponding to the profile of the direction, based on the calculation of the introduction of automated electricity metering systems, providing compact adaptation and methods for their selection in accordance with specific conditions. |

At the master's level

No.	Item name	Brief information about science
1	Electric Power Engineer uskunalar exploitationsi	Modern methods of operation of electrical equipment of the agro-industrial complex research and analysis of the performance of electrical equipment methods of protection of electrical equipment in the networks of the agro-industrial complex
2	Scientific research method and statistical analysis in agro-energy	Basic principles of theoretical and experimental research in agro-energy; organization and formation of scientific research; Knowledge about the analysis and publication of research results, about the methodology of scientific research in the field of electrification and automation of agricultural production
3	Power system design methods	methods for improving the power supply systems of agro-industrial enterprises, the scientific basis for improving the reliability of power supply, methods for designing a power supply system that provides electricity.
4	Rational use of heat and electricity	energy indicators of electrotechnological equipment and processes, methods of analytical synthesis in energy technological processes; know methods to reduce electricity consumption by voltage regulation; theoretical foundations for the efficient use of renewable energy sources; principles of formation of local energy systems that provide energy from renewable energy sources.
5	Electrotechnological processes and equipment	Formation of a system of theoretical and practical knowledge on the energy-technical foundations of converting electricity into thermal energy or using its direct impact in agricultural production processes, the use of special electrothermal and electrotechnological equipment in agriculture, as well as for the formation of practical skills for the targeted use of the impact of trophic factors on biological objects of agriculture economy.

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| 6 . | Alternative sources of electricity and heat supply | general principles of converting natural energy resources into other types of energy, as well as consolidating theoretical and practical knowledge in the minds of students on the efficient use of such energy, the use of renewable energy sources in various sectors of agricultural production and the household, and this is to teach independent decisions |
| 7 | System analysis of consumer energy supply | consists of the formation of students' theoretical knowledge, practical skills, a methodical approach to technical phenomena and processes, the formation of a scientific worldview. When using system analysis in the energy supply of consumers, students should have theoretical knowledge and practical skills and competencies in the field of efficient use of energy and resources in agricultural production processes. |
| 8 | Energy service and energy audit in the agro-industrial complex | formation of theoretical knowledge and practical skills and qualifications of energy service and energy audit in the production processes of the agro-industrial complex. |
| 9 | Information technology in scientific research | the formation of theoretical knowledge, practical skills, a methodical approach to technical phenomena and processes, the formation of a scientific worldview. |
| 10 | Fundamentals of efficient use of energy resources | This is the formation of theoretical knowledge and practical skills and competencies for the efficient use of energy and resources in agricultural and water production processes. |
| 11 | Special electrothermal and electrotechnological processes and equipment | When mastering the science of special electrothermal and electrotechnological processes and equipment, he must be able to perform: special types of conversion of electrical energy into thermal energy and the theoretical foundations of their direct application, design of electrical technologies and electrical equipment in agriculture; problematic issues of the use of electrical engineering in agriculture, energy saving factors of electrical engineering |